**FIGURE 1: RELATIONSHIPS BETWEEN PARTIES**

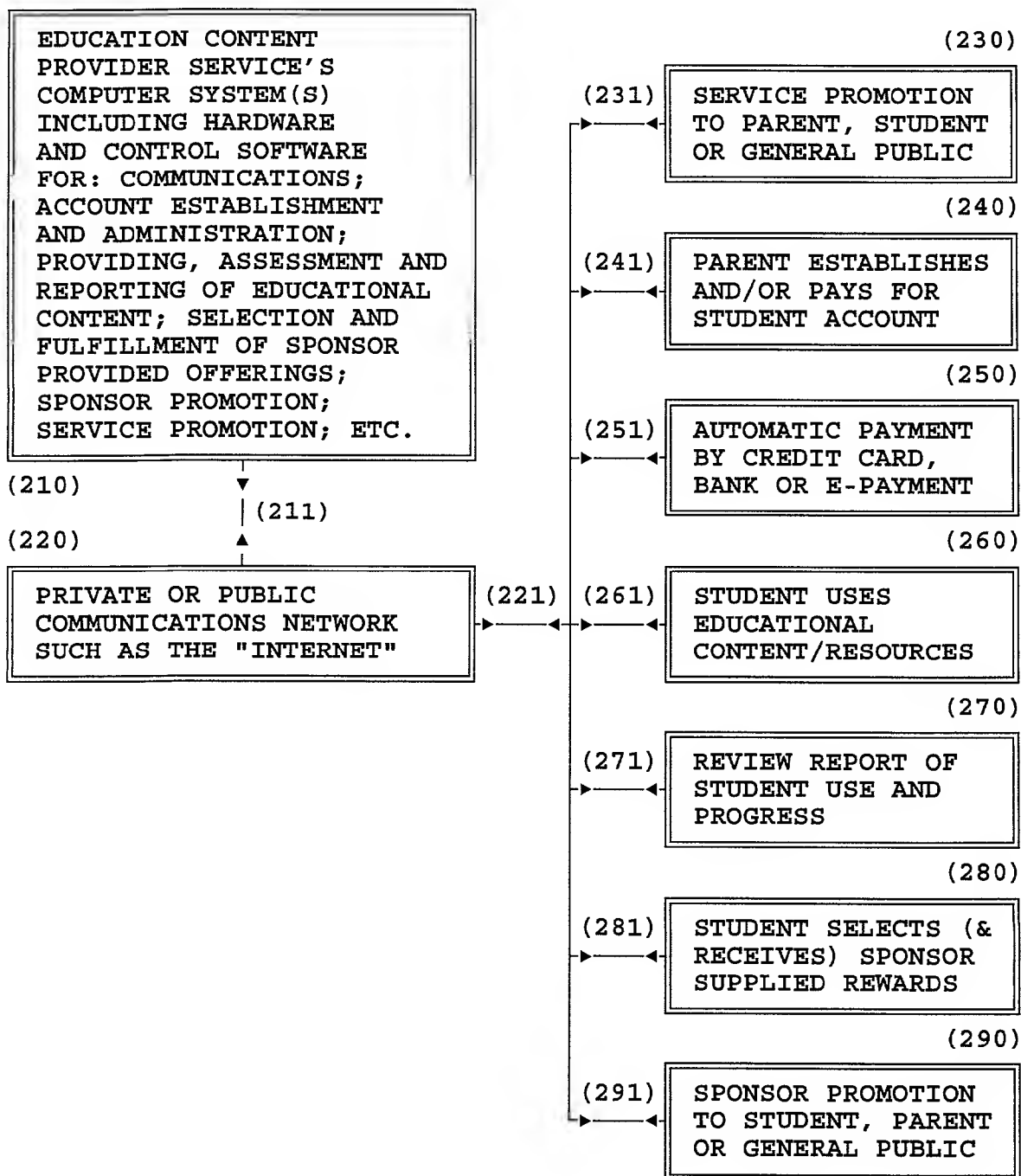


FIGURE 2: EXAMPLES OF NETWORK-MEDIATED FUNCTIONS

310	ACCOUNT INFORMATION: EXAMPLES, SOME DETAILS OMITTED	
311	PARENT LOGIN	DADDYO6
312	PARENT PASSWORD	IPAY4IT
319	PARENT NAME	DR. SAMUEL CONCERNED
316	PARENT CONTACT	123 MAIN; 212/333-4444; drwc@att.com
319	PARENT PAYMENT	VISA 1234-777888-90112
316	STUDENT LOGIN	SONOFSAM
317	STUDENT PASSWORD	NOTBYCHOICE
319	STUDENT NAME	SAMUEL CONCERNED, JR.
319	STUDENT CONTACT	123 MAIN; 212/333-4445; sos@att.com
320	SERVICES	STANDARD MATH & INTENSIVE VERBAL
321	INCENTIVES	ALL OK BUT COSMETICS

FIGURE 3: EXAMPLE OF ACCOUNT INFORMATION DATABASE ENTRY

410	WEEKLY STUDENT USE: EXAMPLES, SOME DETAILS OMITTED	
411	MONDAY USE	YES; SCORE 80%; POINTS 1
412	TUESDAY USE	YES; SCORE 90%; POINTS 1
413	WEDNESDAY USE	YES; SCORE 60%; POINTS 1
414	THURSDAY USE	NO; SCORE NIL; POINTS 0
415	FRIDAY USE	YES; SCORE 70%; POINTS 1
416	SATURDAY USE	YES; SCORE 70%; POINTS 2
417	SUNDAY USE	YES; SCORE 80%; POINTS 2
418	WEEKLY SCORE	6 VISITS; AVERAGE SCORE 75%; 8 POINTS
419	REWARD OFFERED	LEVEL 2 MUSIC OR LEVEL ONE CLOTHING

FIGURE 4: EXAMPLE OF WEEKLY A STUDENT USE DATABASE ENTRY

510	STUDENT PROGRESS REPORT: EXAMPLES, SOME DETAILS OMITTED	
511	MATH WEEK 1	AVERAGE SCORE 60%
512	VERBAL WEEK 1	AVERAGE SCORE 90%
	. . .	
513	MATH WEEK N	AVERAGE SCORE 80%
514	VERBAL WEEK N	AVERAGE SCORE 80%
515	MATH PROGRESS	MODERATE SCORE; VERY GOOD PROGRESS
516	VERBAL PROGRESS	GOOD SCORE; BUT NO PROGRESS
517	RECOMMENDATION 1	MATH: ISOSCELES RIGHT TRIANGLE PROBLEM
518	RECOMMENDATION 2	VERBAL: PRACTICE SUPPLIED VOCABULARY
	. . .	
519	RECOMMENDATION N	GENERAL: SKIP FEWER PRACTICE SESSIONS

FIGURE 5: EXAMPLES OF A STUDENT PROGRESS REPORT DATABASE ENTRY

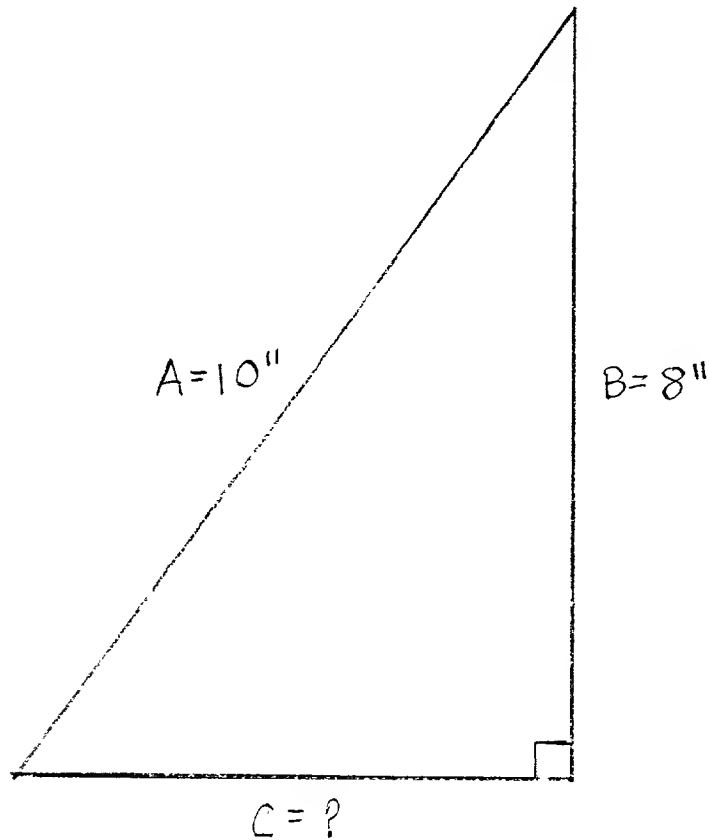
610	STUDENT/PROBLEM PROGRESS: EXAMPLES, SOME DETAILS OMITTED	
611	PROBLEM 1	RIGHT ISOSCELES TRIANGLE
612	ENCOUNTER 1	VERSION 6; CORRECT; SESSION 2
613	ENCOUNTER 2	VERSION 3; CORRECT; SESSION 5
614	STATUS	MASTERED; REPEAT ONLY IF TIME
	. . .	
619	CONTINUATION	ONLY AS NEEDED

620	STUDENT/PROBLEM PROGRESS: EXAMPLES, SOME DETAILS OMITTED	
621	PROBLEM 2	30°/60°/90° TRIANGLE
622	ENCOUNTER 1	VERSION 2; INCORRECT; SESSION 2
623	ENCOUNTER 2	VERSION 4; INCORRECT; SESSION 3
624	ENCOUNTER 3	VERSION 6; CORRECT; SESSION 4
625	ENCOUNTER 4	VERSION 1; CORRECT; SESSION 6
624	ENCOUNTER 5	VERSION 3; CORRECT; SESSION 12
627	STATUS	MASTERED; BUT REPEAT TO CONFIRM
	. . .	
629	CONTINUATION	ONLY AS NEEDED

FIGURE 6: EXAMPLES OF STUDENT/PROBLEM PROGRESS REPORT DATABASE ENTRIES

710	PROBLEM STRUCTURE: EXAMPLES, SOME DETAILS OMITTED	
711	NAME	3/4/5 TRIANGLE
712	PROBLEM/VERSION	PROBLEM 27 VERSION 2
713	TEXT FOR PROBLEM	"Side A of triangle is 10 inches ..."
714	PROBLEM GRAPHIC	P27V2.GIF
715	ANSWER A TEXT	"6 inches"
716	ANSWER B TEXT	"6 feet"
717	ANSWER C TEXT	"8 inches"
718	ANSWER D TEXT	"10 inches"
719	ANSWER E TEXT	"5 inches"
720	CORRECT ANSWER	A
721	CORRECT ACTION A	"Congratulations, you recognized ..."
722	INCOR. ACT. B-D	"Sorry, <u>CLICK HERE</u> to review 3/4/5 ..."
723	INCOR. ACTION E	"This is not a 30°/60°/90° ..."
724	ACTION E GRAPHIC	P27ACTE.GIF
725	REVIEW TEXT	"This is an example of a 3/4/5 ..."
726	REVIEW GRAPHIC	P27REV.GIF
727	ADDITIONAL HELP	"For additional help see Schaum's ..."
728	STATISTICS	Historical use by all students

FIGURE 7: EXAMPLE OF A PROBLEM STRUCTURE DATABASE ENTRY

**FIGURE 8: EXAMPLE OF A PROBLEM STATEMENT ILLUSTRATION**

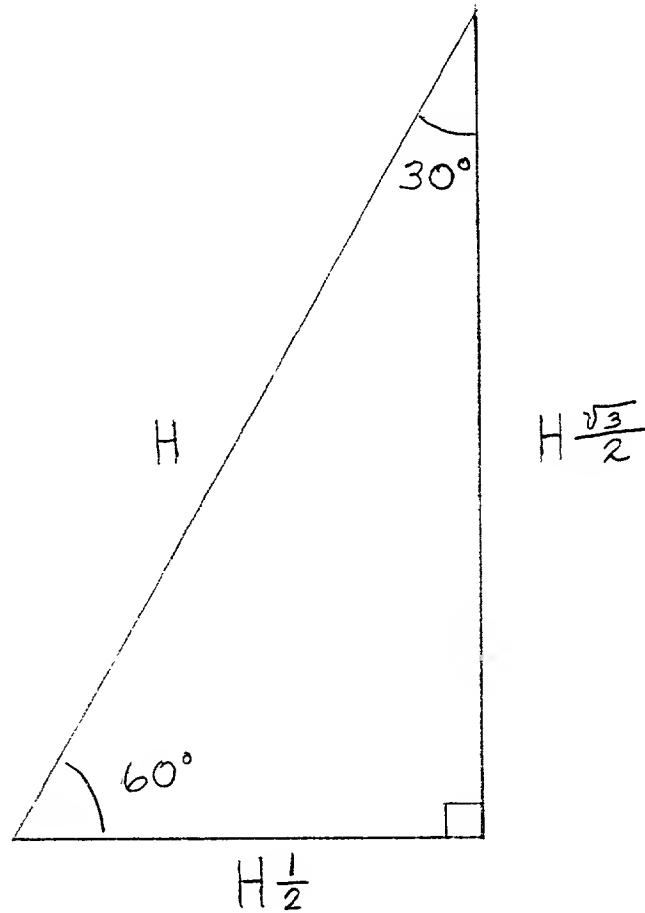
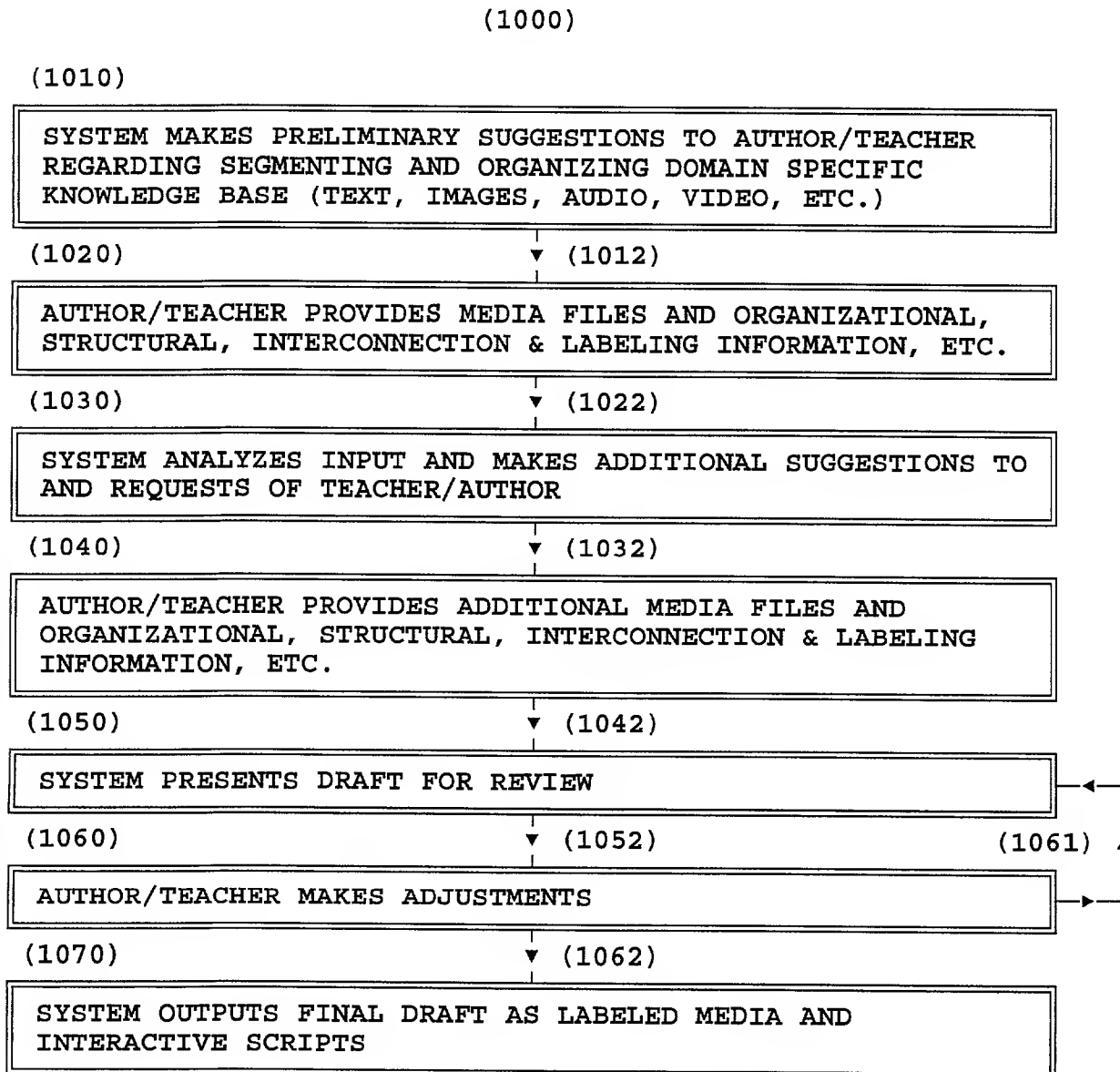


FIGURE 9: EXAMPLE OF AN ANSWER CORRECTION ILLUSTRATION

**FIGURE 10: OVERALL SYSTEM FLOW — AUTHORING (TEACHING) MODE**

(1100)

(1110)

SYSTEM PRESENTS MATERIAL IN DEFAULT MODE OR, OF POSSIBLE, IN MODE INDICATED BY STUDENT PROFILE/HISTORY AND TYPE OF MATERIAL (PEDAGOGICAL AND COGNITIVE LABELS, ETC.)

(1120)

▼ (1112)

STUDENT INTERACTS WITH MATERIAL, INCLUDING ASSESSMENT

(1130)

▼ (1122)

SYSTEM ANALYZES STUDENT ANSWERS

(1140)

▼ (1132)

SYSTEM REPEATS OR ADDS MATERIAL AND ASSESSMENT AS NEEDED AND ADJUSTS LEVEL OF DETAIL OR COMPLEXITY, TYPE OF MEDIA OF PRESENTATION, ETC. BASED ON SEVERAL INPUTS

(1150)

▼ (1142)

(1151)

SYSTEM ANALYZES KEYBOARD AND MOUSE DYNAMICS TO DETERMINE STUDENT INTEREST, LEVEL OF ATTENTION, ETC.

(1160)

▼ (1152)

(1161)

SYSTEM ANALYZES STUDENT VOICE & FACE TO DETERMINE STUDENT INTEREST, LEVEL OF ATTENTION, ETC.

(1170)

▼ (1162)

(1171)

STUDENT MAKES SPECIFIC REQUESTS TO ADJUST LEVEL OF DETAIL SPEED OF PRESENTATION, TYPE OF MEDIA, OR FOR ADDITIONAL INFORMATION VIA SEVERAL TYPES OF "HELP" REQUESTS

(1180)

▼ (1172)

SYSTEM UPDATES STUDENT PROFILE BASED ON PERFORMANCE AND MEDIA LABELS; KEEPS BOOKMARK STRUCTURE; GENERATES REPORTS

FIGURE 11: OVERALL SYSTEM FLOW — PRESENTATION (LEARNING) MODE

(1200)

(1210)

PRELIMINARY SYSTEM QUERIES
(ELEMENTS OPTIONAL AND UPDATABLE):

Title of [sub]-unit?
What is knowledge [sub-]domain?
What is subject?
Who is (are) audience(s)?
Purpose of material?
Use (applications) of material?
Characterize theoretical vs. practical;
abstract vs. concrete; etc.
Prerequisite courses, units, sub-units skills?
Pointers to related materials?
Add your own tags and visible/hidden/help comments.
Etc.

(1220)

▼ (1212)

ATOMIZING AND ORGANIZING OF MATERIAL
(ELEMENTS OPTIONAL AND UPDATABLE):

List key concepts, points, facts to be presented.
Organize into default, multi-tier, outline.
Specify recommended (required) internal prerequisites.
Specify internal relations.
Add your own tags and visible/hidden/help comments.
Etc.

(1230)

▼ (1222)

ETC.

FIGURE 12: EXAMPLES OF EXPANSION OF ELEMENT (1010)

(1300)

(1310)

IN RESPONSE TO FINISHING A CONCEPTUAL UNIT, SYSTEM ASKS THE FOLLOWING TO CONSTRUCT INTERACTIVE ASSESSMENT SCRIPT:

What question(s) would you ask to confirm mastery of this material?"

AND FOR EACH QUESTION:

What is a correct answer?

What is an expected wrong answer(s)?

If a student chose this wrong answer, what would you tell them, in order to clarify their understanding?

What re-enforcing or remedial material would you recommend presenting?

Etc.

(1320)

▼ (1312)

IN RESPONSE TO FINISHING A CONCEPTUAL [SUB]-UNIT, SYSTEM ASKS THE FOLLOWING TO CONSTRUCT ALTERNATE PRESENTATIONS WITH DISTINCT LEVELS OF DETAIL AND OTHER DIFFERENCES:

State that again, but in different language.

State that again, but in more detail (or more complex).

State that again, but in less detail (or simpler).

State an analogy that illustrates this concept.

Provide graphic/animation that illustrates this concept.

Provide pointer(s) to background material.

Provide an example of how this material/concept is used.

Tell me what this material/concept is good for.

Etc.

(1330)

▼ (1322)

IN RESPONSE TO FINDING A NEW TERM:

That term is unfamiliar – please supply a definition.

(1340)

▼ (1332)

IN RESPONSE TO FINDING A TERM DISCUSSED ELSEWHERE:

Should that other material be marked as prerequisite?

Should that other material be marked as related?

(1350)

▼ (1342)

ETC.

FIGURE 13: EXAMPLES OF EXPANSION OF ELEMENT (1030)

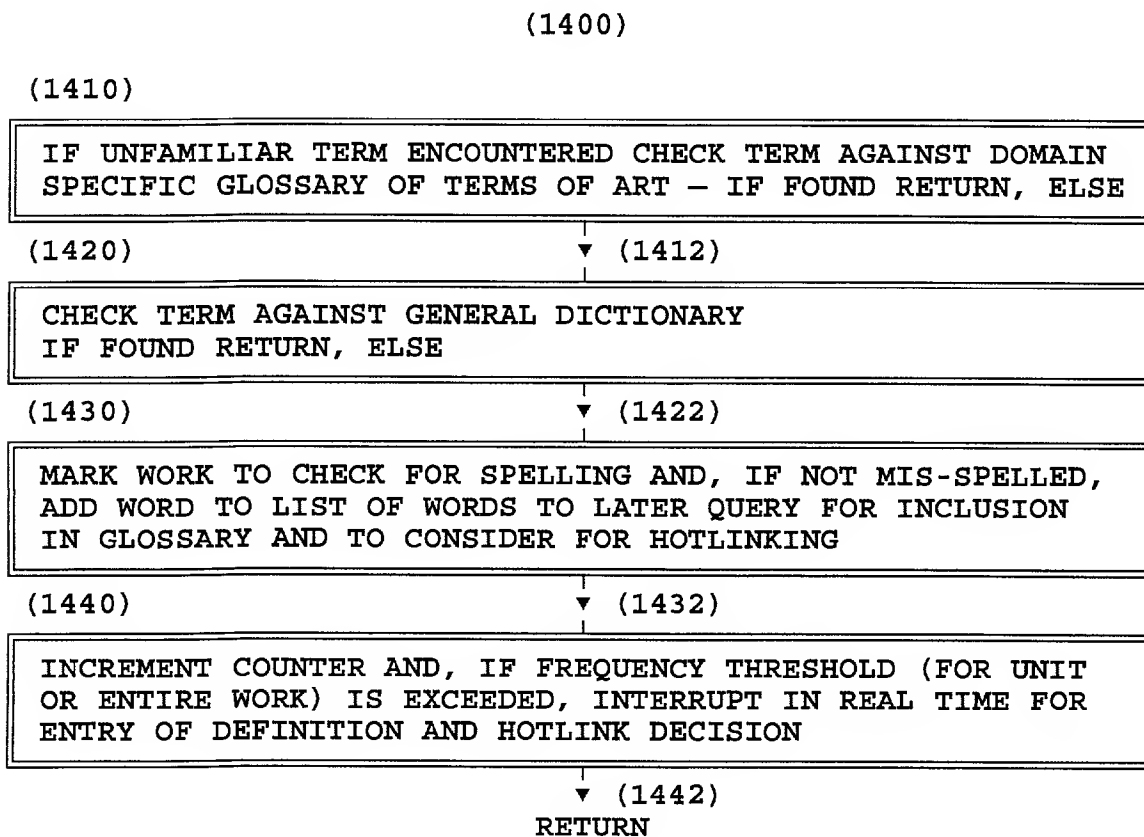


FIGURE 14: EXAMPLE OF EXPANSION OF ELEMENT (1330)

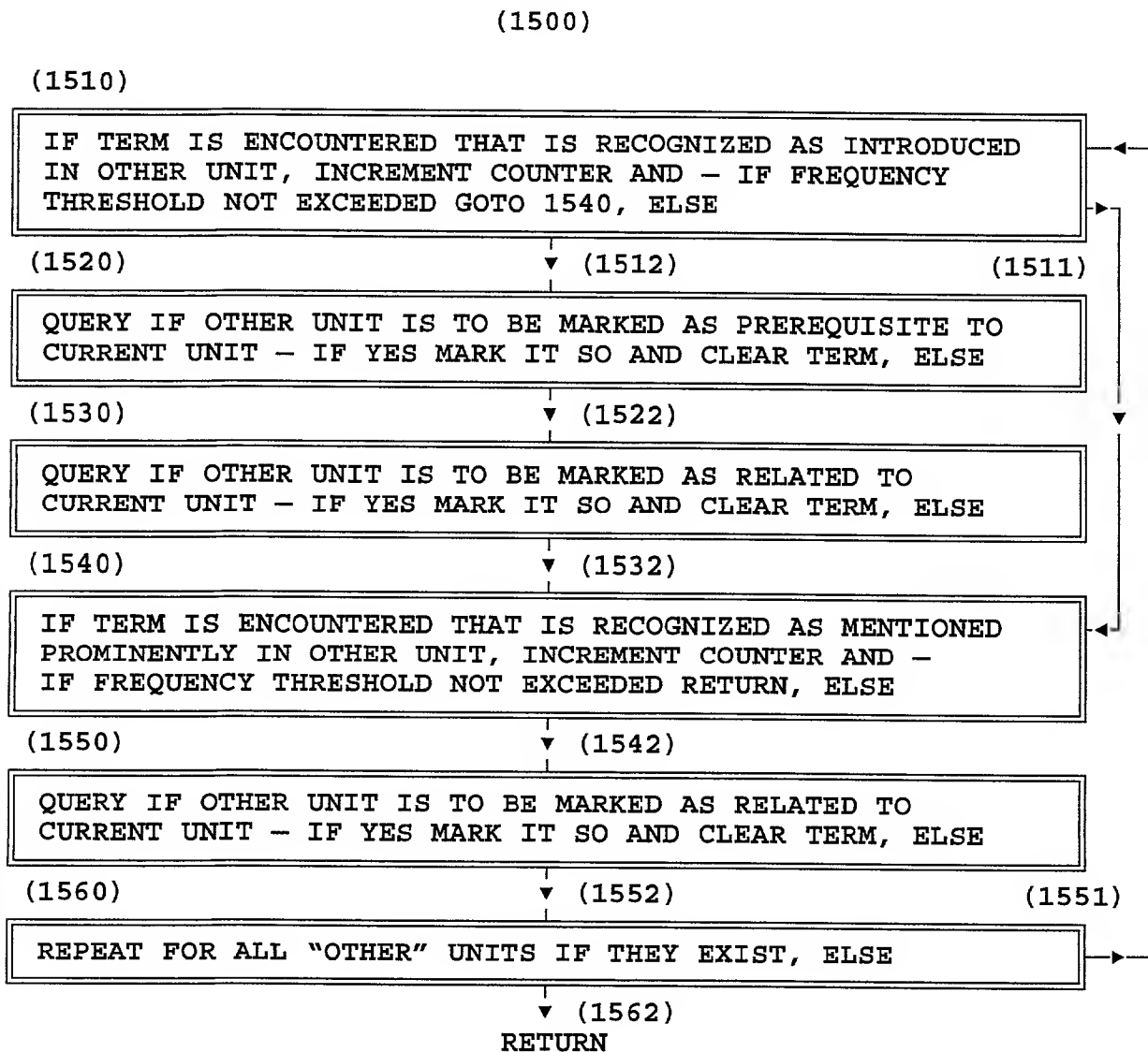


FIGURE 15: EXAMPLE OF EXPANSION OF ELEMENT (1340)

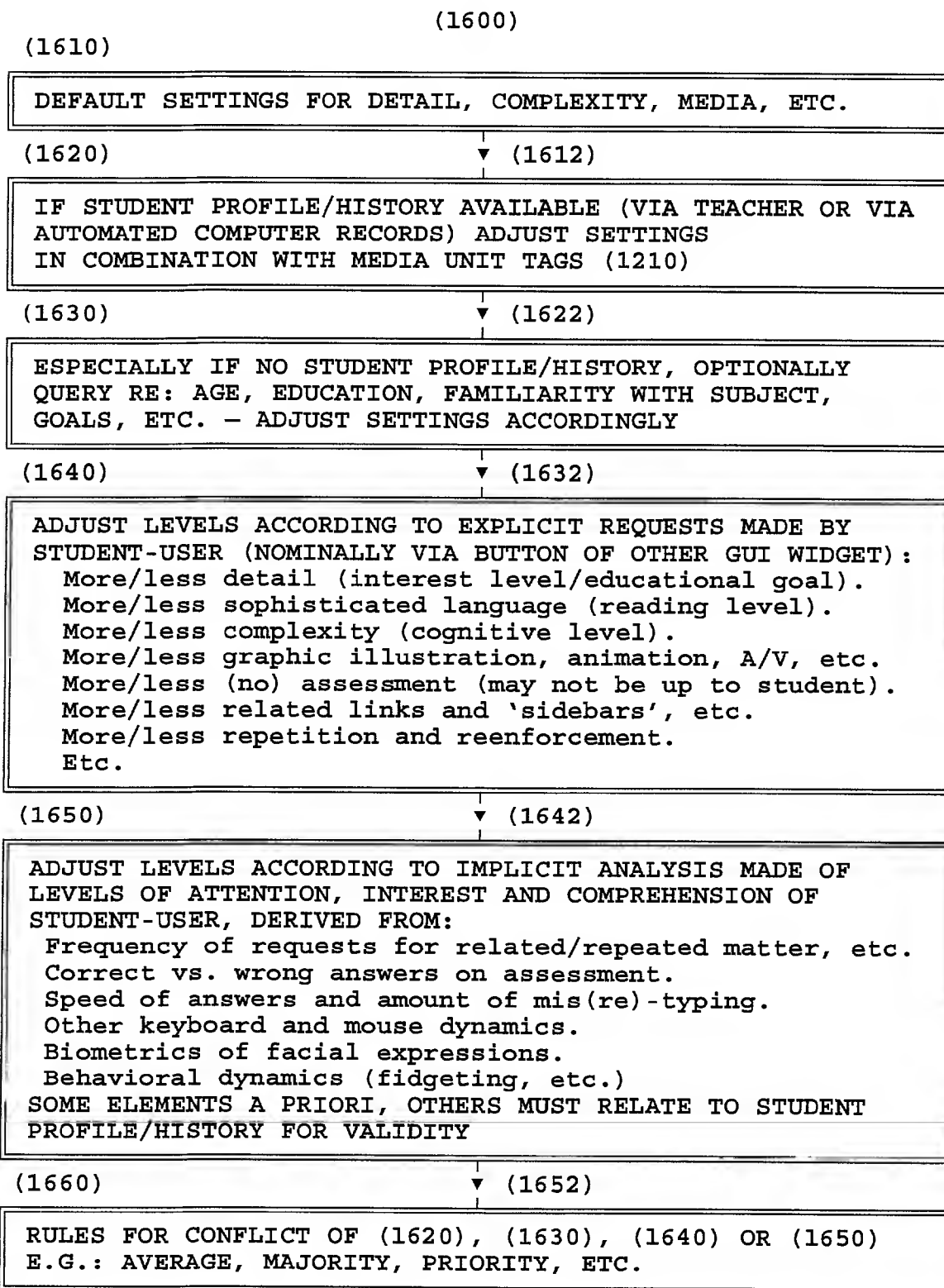


FIGURE 16: EXAMPLE OF EXPANSION OF PART OF ELEMENT (1140)

(1700)

(1710)

IF HELP REQUEST IS GENERAL HELP TYPE, TRANSFER TO MAIN PROGRAM HELP FUNCTION, ELSE

(1720)

▼ (1712)

IF HELP REQUEST IS "SHOW ME" HELP TYPE, PRESENT GRAPHIC, ANIMATION OR VIDEO, IF AVAILABLE, ELSE

(1730)

▼ (1722)

IF HELP REQUEST IS "TELL ME MORE" HELP TYPE, PRESENT A MORE DETAILED VERSION OF MATERIAL AND/OR LINKS TO RELATED MATERIAL, IF AVAILABLE, ELSE

(1740)

▼ (1732)

IF HELP REQUEST IS "TELL ME AGAIN" HELP TYPE, PRESENT A DIFFERENT ARTICULATION AND/OR AN ANALOGY, IF AVAILABLE, ELSE

(1750)

▼ (1742)

IF HELP REQUEST IS "GIVE ME AN EXAMPLE" HELP TYPE, PRESENT AN EXAMPLE, IF AVAILABLE, ELSE

(1760)

▼ (1752)

IF HELP REQUEST IS "WHAT IS IT GOOD FOR" HELP TYPE, PRESENT A DESCRIPTION OF WHAT THE MATERIAL IN THIS UNIT IS USEFUL FOR, IF AVAILABLE, ELSE

(1770)

▼ (1762)

IF HELP REQUEST IS "HOW IS IT USED?" HELP TYPE, PRESENT A DESCRIPTION OF HOW THE MATERIAL IN THIS UNIT IS USED, IF AVAILABLE, ELSE

(1780)

▼ (1772)

IF ANY OF THE REQUESTED MATERIAL IS NOT AVAILABLE, OFFER TO CONNECT TO (CHAT), OR LEAVE MESSAGE FOR (EMAIL, NEWS) HUMAN TEACHER AND/OR PEER, VIA ELECTRONIC MEANS

FIGURE 17: EXAMPLE OF EXPANSION OF PART OF ELEMENT (1170)